

There is provided a method for transmitting non-real time traffic in a connection oriented communications network. The network includes a network core that has a source and a destination with a path between them. The non-real time traffic is received at the source from a number of connections and each of the connections is associated with one of many classes of transmission service. The method includes the first step of aggregating at the source the non-real time traffic received from the connections onto the path. The non-real time traffic is transmitted on the path without regard to the connections with which the non-real time traffic is associated. The method includes the second step of segregating at the destination the non-real time traffic so transmitted on the path within the core according to the corresponding connections with which the non-real time traffic is associated. Flow control is applied between the source and the destination to thereby regulate the rate of transmission of the non-real time traffic along the path.